Remarks:

The above amendments and these remarks are responsive to the Office action dated June 20, 2006. Prior to entry of this response, claims 1-42 were pending in the application. In the Office action, 1) claims 16-31 are allowed; 2) claims 1, 4, 5, 10-12, 32, 35, 36 and 40-42 are rejected under 35 USC 102(b) as being anticipated by Foley (US 5,450,130); and 3) claims 2, 3, 6-9, 13-15, 33, 34 and 37-39 are objected to as being dependent upon a rejected base claim. In view of the amendments above, and the remarks below, applicants respectfully request reconsideration of the application and allowance of the pending claims.

Allowable Subject Matter

The applicants thank the Examiner for allowing claims 16-31, and for indicating that claims 2, 3, 6-9, 13-15, 33, 34 and 37-39 would be allowable if rewritten in an independent form.

Rejections under 35 USC § 102

The applicants respectfully traverse rejection of claims 1, 4, 5, 10-12, 32, 35, 36 and 40-42, but have amended claims based on the Examiner's indication of allowable subject matter in order to advance prosecution without further delay. In particular, claim 1 is amended to incorporate the subject matter of allowable claim 2, and claim 32 is amended to incorporate the subject matter of allowable claim 33. Therefore, rejection of independent claims 1 and 32, as well as claims depending from claims 1 and 32, should be withdrawn.

New claim

New claim 43 recites:

> A method of decompressing a set of compressed subsampled image data, comprising:
>
> reading a first subset of the subsampled image data into a cache memory and into a buffer, wherein the buffer has an amount of memory equal to or less than the cache memory;

calculating chrominance values for at least some pixels of the subset of the subsampled image data to form decompressed image data; and

outputting the decompressed image data.

The present application discloses a method of preventing overwriting of image data in the cache memory by reading the subsampled image data into a cache and into a buffer, wherein the amount of memory of the buffer is equal to or less than the cache memory. In particular, among other limitations, claim 43 recites, "wherein the buffer has an amount of memory equal to or less than the cache memory".

In processing image data, cache memory, which typically has a small size relative to general memory, may be used to increase processor speed. When the processor needs a value for a calculation, a small sized cache may allow cache misses when image data is overwritten in the cache memory. The occurrence of too many cache memory misses may slow down image decompression to a detrimental extent.

The present application limits cache memory misses by using a buffer with an equal or smaller amount of memory compared to the amount of cache memory. Such a buffer may be used while decompressing a set of subsampled image data into the buffer as a series of smaller subsets of image data. Each subset of image data may be decompressed and output from the buffer to the cache before a new subset of the compressed image data is read into the decompression buffer. Because the decompression buffer is smaller than the cache memory, it is less likely that any image data in the cache memory will be overwritten while being used for decompression calculations.

In addition, before the decompressed image data is output, a missing chrominance component may be calculated from adjacent chrominance values depending upon the physical location of the missing chrominance value being calculated (see pp. 4-5 in the present application).

In contrast, the cited reference neither recognizes the problem of cache misses caused by overwriting, nor discloses any of the limitations described above. In other words, the reference does not disclose calculating missing

chrominance values from adjacent chrominance values, let alone decompressing subsampled image data by reading the data into a buffer which has an amount of memory equal to or less than the cache memory. Accordingly, Foley does not appreciate the problems or issues recognized in the present application, and as a result, does not disclose the claimed solutions. Accordingly, claim 43 is not anticipated by Foley, and should be passed to issuance.

Conclusion

Applicants believe that this application is now in condition for allowance, in view of the above amendments and remarks. Accordingly, applicants respectfully request that the Examiner issue a Notice of Allowability covering the pending claims. If the Examiner has any questions, or if a telephone interview would in any way advance prosecution of the application, please contact the undersigned attorney of record.

CERTIFICATE OF FACSIMILE

I hereby certify that this correspondence is being sent to the U.S. Patent and Trademark Office via facsimile to (571) 273-8300 on August 23, 2006.

Tracy Meeker

Respectfully submitted,

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